

Date: Fri, 29 Jul 94 04:30:31 PDT  
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>  
Errors-To: Ham-Homebrew-Errors@UCSD.Edu  
Reply-To: Ham-Homebrew@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Homebrew Digest V94 #214  
To: Ham-Homebrew

Ham-Homebrew Digest                      Fri, 29 Jul 94                      Volume 94 : Issue    214

Today's Topics:

   144MHz X-mitter  
   1750 meter band  
   Cyprus (IC Designs) PLL chip, no extern  
Cyprus (IC Designs) PLL chip, no external analog stuff, programmable  
   Does anyone have info on QEX?  
   DSP for the HOMEBREWER??  
   Heath SB-620 as a spectrum analyzer?  
   HELP-getting sticky velcro tape to stick?  
   PMP to BAYCOM Packet modem conversion  
   Telemetry frequencies

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>  
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Thu, 28 Jul 1994 12:45:09 GMT  
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!europa.eng.gtefsd.com!emory!  
rsiatl!ke4zv!gary@network.ucsd.edu  
Subject: 144MHz X-mitter  
To: ham-homebrew@ucsd.edu

In article <312v39\$dhl@acmez.gatech.edu> gt4879a@prism.gatech.edu (Joel Van Odom)  
writes:

>I need plans to build a tiny two meter transmitter that will operate in  
>beacon operation on less than a watt. A ham friend and I plan to launch  
>this transmitter in model rockets in order to do some experimenting with  
>ham radio. I know that controllers for models that operate less than a  
>watt don't require identification to be given. Would this apply in this

>situation? Please send me any ideas or references as to how I could build  
>this device and if and how I will need to use it to transmit identification.

Use the MC2833, Joel. It's a single chip FM transmitter with about 10 mW output. That should be sufficient unless these rockets are *\*really\** big. Motorola has an app note available that will give the details needed to make a transmitter with this chip.

97.215 only waives the ID requirement if you are transmitting *\*to\** a model for telecommand purposes. To transmit *\*from\** a model for telemetry purposes, you have to follow the ID rules. There are custom chips available that will generate a MCW ID on contact closure. They're intended to be mounted inside rigs so you can ID a stolen rig if you hear it on the air. Look for the ad in QST. Or, if you're going to have a data acquisition system to format the telemetry anyway, you can program the microcontroller to also generate an ID for you. If you use ASCII telemetry, the call sign can be included in ASCII, and an ordinary modem used for decoding.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

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Date: 28 Jul 1994 10:06:59 -0400

From: news.cerf.net!gopher.sdsc.edu!nic-nac.CSU.net!charnel.ecst.csuchico.edu!  
yeshua.marcam.com!zip.eecs.umich.edu!newsxfer.itd.umich.edu!gatech!  
howland.reston.ans.net!news.@@ihnp4.ucsd.edu

Subject: 1750 meter band

To: ham-homebrew@ucsd.edu

Although I can't recall who at the moment there are kit manufacturers that provide complete transceiver and transverter operations.

There is a well known Canadian 'Lowfer' that operates a coherent CW beacon and was featured on SPECTRUM ( the weekend Radio Show about the radio hobby and is heard weekly 10:00PM Saturday on 5.810 Mhz). The coherent CW signal has an equivalent 1Kw ERP (legal, since it's coherent CW). For more info on this technology refer to the ARRL publications.

Andy

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Date: 28 Jul 1994 03:13:23 GMT

From: agate!darkstar.UCSC.EDU!news.hal.COM!olivea!korie!newsworthy.West.Sun.COM!  
abyss.West.Sun.COM!spot!myers@ames.arpa  
Subject: Cyprus (IC Designs) PLL chip, no extern  
To: ham-homebrew@ucsd.edu

In article 45o@netcom.com, wa2ise@netcom.com (Robert Casey) writes:  
>In article <315s5k\$s7c@hobbes.cc.uga.edu> mcovingt@aisun3.ai.uga.edu (Michael  
Covington) writes:  
>>Cyperus, Cyprus, Cypress, Cyrix, or what exactly was their name?  
>> ^^^^^^^  
>>There are enough companies with similar names that an exact spelling  
>>is needed -- and if you could also post the part number I'd really  
>>appreciate it.  
>>  
>It's Cypress, IC Designs Division, part number ICD2061a. Also another  
>is ICD2051  
>  
>408-943-2600  
>  
>they're in the Cypress "Timing Technology Products" book

I wonder what kind of noise performance this part sports. Be sure to  
figure out what it uses for a reference frequency, and look for the  
reference sidebands. If the reference frequency is very high, the  
sidebands would be far removed from the primary output frequency.

---

\* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are  
\*  
\* (310) 348-6043 | mine and do not necessarily \*  
\* Dana.Myers@West.Sun.Com | reflect those of my employer  
\*  
\* This Extra supports the abolition of the 13 and 20 WPM tests \*

-----  
Date: Thu, 28 Jul 1994 00:20:56 GMT  
From: netcomsv!netcom.com!wa2ise@decwrl.dec.com  
Subject: Cyprus (IC Designs) PLL chip, no external analog stuff, programmable  
To: ham-homebrew@ucsd.edu

In article <315s5k\$s7c@hobbes.cc.uga.edu> mcovingt@aisun3.ai.uga.edu (Michael  
Covington) writes:  
>Cyperus, Cyprus, Cypress, Cyrix, or what exactly was their name?  
> ^^^^^^^  
>There are enough companies with similar names that an exact spelling  
>is needed -- and if you could also post the part number I'd really

>appreciate it.

>

It's Cypress, IC Designs Division, part number ICD2061a. Also another is ICD2051

408-943-2600

they're in the Cypress "Timing Technology Products" book

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Date: 28 Jul 1994 04:37:24 GMT

From: agate!msuinfo!netnews.upenn.edu!netnews.upenn.edu!yee@ames.arpa

Subject: Does anyone have info on QEX?

To: ham-homebrew@ucsd.edu

>Let's see... we create a magazine specifically to cater to the needs  
>of the amateur experimenter, and that's viewed by some as discouraging  
>experimentation. How strange.

Good point. I didn't think of it in this way.

>In fact, QEX is 32 pages each month. If we thought it would be a good  
>idea to put that material in QST--and we don't--we'd have to come up  
>with about the same number of pages of additional QST advertising to  
>pay for it. From where, I don't know. Might have to raise membership  
>dues, too.

Does QEX contain advertising? If it is a solid 32 pages per month and another 32 would be needed in advertising, the additional 64 pages would be a significant increase in the size of QST. I admit that the increased costs could justify leaving it out.

>The reason why we put a particular article in QEX instead of QST has  
>to do with the audience we think the material serves. What is the  
>benefit of putting into a magazine that goes to 170,000 readers  
>material that might interest only a fraction of a percent of them?  
>That would be criminally wasteful. The advantage of running material  
>in QEX is that it is targeted to the particular community that will  
>find it of interest.

This, doesn't quite ring true. The new ham section also targets a fraction of the audience albeit probably a larger fraction than the technical crowd.

No matter what the article is about, it targets a fraction of the ham audience. Many for instance, do not build projects at all.

Further, the ARRL is supposed to be an organization for all hams. Why discriminate against the hackers?

>At \$12/year (for ARRL members in the US), I think QEX is a bargain.

Well then the cost for QEX isn't \$12 per year but rather \$30+\$12 = \$42 for ARRL members and \$24 (?) for non-members.

The question shouldn't be if \$12 is a bargain but rather whether \$24-\$42 is a bargain. Is it? I don't know.

>(I'm prejudiced, of course--I edit QEX.)

Thanks for the honesty in the matter. It is much appreciated and certainly a cut above the integrity that is typical on USENET.

Of course, there remains the question of why nobody hears about QEX outside of the ARRL community. Further, even inside the ARRL, QEX is rarely discussed. The ARRL doesn't seem to market it well either in QST or in supplementary mailings.

--

Medical Image Processing Group		73 de Conway Yee, N2JWQ
411 Blockley Hall		EMAIL : yee@mipg.upenn.edu
423 Guardian Drive		TELEPHONE : 1 (215) 662-6780
Philadelphia, PA 19104-6021 (USA)		FAX : 1 (215) 898-9145

-----  
Date: 28 Jul 1994 05:44:20 GMT

From: lll-winken.llnl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
vixen.cso.uiuc.edu!ruger-42.slip.uiuc.edu!user@ames.arpa

Subject: DSP for the HOMEBREWER??

To: ham-homebrew@ucsd.edu

Hello everyone,

This may have passed around here a bit, I'm sorry that my work keeps me away from this news group too much, but then again, I wouldn't be able to be sitting here if I didn't work for food :)

-I was wondering if there were schematics/plans/kits out there for DSP filters (that would work as a DSP for Ham uses)

I really don't know that much about DSP, and have this great DSP chip that I am not willing to part with. I can get the specs/schematics etc from

the company that makes this chip, but as for the rest of the circuitry I am purely stuck. (and I don't want to pay the \$700 that the company wants for their fancy smancy dsp board- heck, all I want is an input, and an output- not a fregeebers HP workstation interface for the dsp- it'd be neat I guess, but I just don't need it right now).

S00ooo, I guess I would love to hear from anyone concerning kits, plans, schematics, articles, and personal advice.

I have enjoyed this group quite a bit, and more importantly, I have recieved a bunch of GREAT advice/help from everyone in the past, so I know this is the place to ask about this, especially because I am completely knew to HF, and especially DSP.

THANKS A TON TO EVERYONE AHEAD OF TIME!!!!

73!

Allen Hall      n9rzc@uiuc.edu

ps- I'll try to catch the responses on this group, but I would really appreciate e-mail if you can, since I really have a hard time getting to the net nowadays (finals are upon us again!)

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Date: Thu, 28 Jul 1994 12:20:03 GMT  
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!kd4nc!ke4zv!  
gary@network.ucsd.edu  
Subject: Heath SB-620 as a spectrum analyzer?  
To: ham-homebrew@ucsd.edu

In article <btobackCtKHt5.87D@netcom.com> btoback@netcom.com (Bruce Toback) writes:

>Has anyone used a Heath SB-620 as a spectrum analyzer? I have the opportunity  
>to buy one for \$90, and I'd like a spectrum analyzer to check out filters,  
>amplifiers, and so on. Is the SB-620 (that's the Scanalyzer) good for this  
>sort of thing?

This unit is a \*panadapter\* designed to work at the IF frequency of Heath receivers. The achievable dispersion is limited by the IF selectivity of the receiver. If the receiver tunes the frequency range that you need to test your amplifiers or filters, and if the dispersion allowed by the receiver is sufficient, it can be pressed into service. However, for amplifiers, you'd like a wide enough dispersion to show fundamental and harmonics of an amplifier. I sincerely doubt you could make the SB-620 do that.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

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Date: 27 Jul 1994 20:45:19 GMT  
From: thecourier.cims.nyu.edu!longlast.cs.nyu.edu!jackson@nyu.arpa  
Subject: HELP-getting sticky velcro tape to stick?  
To: ham-homebrew@ucsd.edu

|> I trimmed off some of the "hooks" because  
|> the stuff is so strong it is hard to separate the two pieces.  
|>  
|>  
|> Brett Miller N70LQ                      brett\_miller@ccm.hf.intel.com  
|> Intel Corp.  
|> American Fork, UT

I may be wrong, but I interpreted the stickyness problem to be in the glue of the piece attached to the dash.. in which case I would suggest lightly sanding (at least not armor-alling) the area where you are trying to get it to stay. I too use Radio Shack "hook and loop" tape, but I don't know if it's heavy duty. Of course, it's only holding a Pro34 vertically which might not put too much stress on the hold.

Remember the golden rule of velcro, the more area covered on both surfaces, the better the hold.

--

Steven Jackson, Assistant to the Chair of Computer Science  
Courant Institute of Mathematical Sciences, New York University  
251 Mercer Street, NY NY 10012

Work	<-- (forwarded)	Home
jackson@cs.nyu.edu,	jcksnte@acfccluster.nyu.edu,	sjackson@cjbbs.com

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Date: 28 Jul 1994 11:16:37 GMT  
From: ihnp4.ucsd.edu!agate!usenet.ins.cwru.edu!cleveland.Freenet.Edu!  
ei938@network.ucsd.edu  
Subject: PMP to BAYCOM Packet modem conversion  
To: ham-homebrew@ucsd.edu

Ham Folks!

Does anyone know how to convert a standard Poor Mans Packet (PMP) to use a serial port like the BAYCOM modem? This is essential to use the PMP for TCPIP and NOS like I plan to. I know it can be done, and I have seen it before, but do not have the plans. Where are they? Can someone help me out on this?

THANK YOU THANK YOU THANK YOU!!!

Andrew Lynch  
alynch@wpgate1.wpafb.af.mil

73

PS, I just got my PMP to connect to the packet BBS using a Ramsey kit radio. WOW What rush!! I remember when these were stacks of parts on the workbench!!

-----  
Date: Thu, 28 Jul 1994 12:06:05 GMT  
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!kd4nc!ke4zv!  
gary@network.ucsd.edu  
Subject: Telemetry frequencies  
To: ham-homebrew@ucsd.edu

In article <andyb.775231019@access1> andyb@access1.digex.net (Andy Harrah) writes:  
>While waiting for my ticket to arrive, I've been designing a simple telemetry  
>system to go onboard an R/C helicopter. My question is this - how do I  
>handle the trade off of lower frequency equipment being easier to build at  
>home vs. the benefit of having a full size antenna system on the helicopter.  
>I started off thinking 50 MHz would be easy to work with until I got around  
>to thinking about the antenna.  
>  
>Any advice is welcome.../Andy

Actually, I think you'll find that it's \*easier\* to build the equipment at higher frequencies than at lower frequencies. That's because there are unconditionally stable packaged ICs available that make the job rather mundane. Building RF equipment with discrete components in the upper HF and lower VHF range is usually \*much\* more difficult than building equipment at UHF and microwave where packaged components like MMICs are widely and cheaply available, and where relatively small stripline or cavity resonators are practical. Trying to tame strays and parasitics at upper HF and lower VHF in discrete designs can be a real bear.

Gary



--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

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Date: Thu, 28 Jul 1994 12:15:31 GMT  
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!kd4nc!ke4zv!  
gary@network.ucsd.edu  
To: ham-homebrew@ucsd.edu

References <1994Jul23.041302.567@ke4zv.atl.ga.us>,  
<1994Jul25.121919.23029@arrl.org>, <CtJx2M.6GK@yuma.ACNS.ColoState.EDU>  
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)  
Subject : Re: VHF/UHF Coax switches (Whaddabout Diodes?)

In article <CtJx2M.6GK@yuma.ACNS.ColoState.EDU> galen@picea.CFNR.ColoState.EDU  
(Galen Watts) writes:

>What about using diodes? How big should a diode be to switch (hold back)  
>100W on 2m? (How do you keep 100W of RF out of your GaAs FET Preamp?).  
>Just wondering,  
>Galen, KF0YJ

Sure, you can use PIN diode switches instead of relays. \*Matched\* 100  
watt switches are practical. However, to emulate the double pole double  
throw relays used to switch an inline amp is a bit more complicated than  
just doing a TR switch. If you don't need the switching speed, the relays  
remain simpler and cheaper.

Your switching bias has to be stronger than the RF signal in order to  
keep a diode switch in the OFF state. That becomes a bit challenging  
at the 100 watt level where the RF voltage can be 70.7 V RMS with  
unity SWR. If SWR rises, the voltage needed can become ridiculous.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
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534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

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Date: 28 Jul 1994 19:51:12 GMT  
From: sunic!news.kbfi.ee!anubis.kbfi.ee!ylo@uunet.uu.net  
To: ham-homebrew@ucsd.edu

References <30kdq3\$m4l@search01.news.aol.com>, <CtIorM.L0z@ncifcrf.gov>,  
<YEE.94Jul28003724@mipgsun.mipg.upenn.edu>  
Subject : Re: Does anyone have info on QEX?

Conway Yee (yee@mipg.upenn.edu) wrote:

> Of course, there remains the question of why nobody hears about QEX  
> outside of the ARRL community. Further, even inside the ARRL, QEX is  
> rarely discussed. The ARRL doesn't seem to market it well either in  
> QST or in supplementary mailings.

Have you ever tried to find QEX in Europe? I have :-(

Ylo Mets,

Institute of Chemical Physics & Biophysics,  
Tallinn,  
Estonia.

-----  
Date: Wed, 27 Jul 1994 16:51:10 GMT  
From: psinntp!arrl.org!jlbloom@uunet.uu.net  
To: ham-homebrew@ucsd.edu

References <30kdq3\$m4l@search01.news.aol.com>, <CtIorM.L0z@ncifcrf.gov>,  
<YEE.94Jul25185334@mipgsun.mipg.upenn.edu>u  
Subject : Re: Does anyone have info on QEX?

Conway Yee (yee@mipg.upenn.edu) wrote:

: >It's a short (24p about) publication by the ARRL, designed for  
: >experimenters. It's the technical stuff that should be in QST  
: >as far as I'm concerned, but the League has decided to cull out  
: >those parts and publish them separately. It comes out every month.

: If it is truly only 24 pgs, there is barely an excuse NOT to have it  
: in QST. A typical QST is circa 240 pgs long. What is an extra 24  
: pgs? The existance of QEX can't be explained by the vast amount of  
: material that won't fit into QST. The only possible excuse would be  
: to get an additional subscription fee. If anything, the ARRL should  
: be encouraging experimentation, not discouraging it. Well, c'est la  
: vie.

Let's see... we create a magazine specifically to cater to the needs of  
the amateur experimenter, and that's viewed by some as discouraging  
experimentation. How strange. I guess we're also discouraging them by

publishing the digital/VHF/Microwave conference proceedings, since those aren't in QST, either. Our publishing of National Contest Journal must be an attempt to discourage contesting, too.

In fact, QEX is 32 pages each month. If we thought it would be a good idea to put that material in QST--and we don't--we'd have to come up with about the same number of pages of additional QST advertising to pay for it. From where, I don't know. Might have to raise membership dues, too.

The reason why we put a particular article in QEX instead of QST has to do with the audience we think the material serves. What is the benefit of putting into a magazine that goes to 170,000 readers material that might interest only a fraction of a percent of them? That would be criminally wasteful. The advantage of running material in QEX is that it is targeted to the particular community that will find it of interest. And because the production costs of QEX are substantially lower than those of QST, we can afford to give more pages to an article, expanding with text and figures as needed. That's particularly important with technical articles.

The technical material we put in QST is designed to meet the needs and interests of a broad spectrum of readers, including weekend project builders. The articles in QEX, on the other hand, are intended particularly for people who are developing circuits, procedures and algorithms. Those people are a small minority of the 170,000 who read QST.

At \$12/year (for ARRL members in the US), I think QEX is a bargain. (I'm prejudiced, of course--I edit QEX.) I don't expect QEX income will ever exceed its expenses. We'd like QEX to break even, of course, but we don't mind continuing to lose money on it (a moderate amount, anyway) because it serves its intended purpose of providing a forum for experimenters.

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Jon Bloom KE3Z    jbbloom@arrl.org

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End of Ham-Homebrew Digest V94 #214

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